

Application No.: 10/802341

Docket No.: UC0361USNA

Listing of Claims

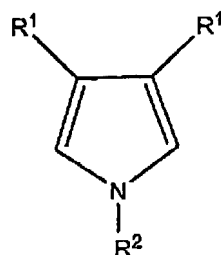
1. (Withdrawn)
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19. (Withdrawn)

20. (Currently Amended) A method of making thea composition comprising an aqueous dispersion of a polypyrrole and at least one colloid-forming polymeric acid of Claim 4, said method comprising forming a combination of water, at least one pyrrole monomer, at least one colloid-forming polymeric acid, a catalyst, and an oxidizing agent, in any order, provided that at least a portion of the colloid-forming polymeric acid is present when at least one of the pyrrole monomer and the oxidizing agent is added.

21. (Original) The method according to Claim 20, wherein the polymeric acid is selected from polymeric sulfonic acids, polymeric carboxylic acids, polymeric acrylic acids, polymeric phosphoric acid, polymeric phosphonic acids, and mixtures thereof and the pyrrole monomers are selected from Formula II

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(II)

wherein:

R¹ is independently selected so as to be the same or different at each occurrence and is selected from hydrogen, alkyl, alkenyl, alkoxy, alkanoyl, alkythio, aryloxy, alkylthioalkyl, alkylaryl, arylalkyl, amino, alkylamino, dialkylamino, aryl, alkylsulfinyl, alkoxyalkyl, alkylsulfonyl, arylthio, arylsulfinyl, alkoxycarbonyl, arylsulfonyl, acrylic acid, phosphoric acid, phosphonic acid, halogen, nitro, cyano, hydroxyl, epoxy, silane, siloxane, alcohol, benzyl, carboxylate, ether, ether carboxylate, amidosulfonate, ether sulfonate, and urethane; or both R¹ groups together may form an alkylene or alkenylene chain completing a 3, 4, 5, 6, or 7-membered aromatic or alicyclic ring, which ring may optionally include one or more divalent nitrogen, sulfur or oxygen atoms; and

R² is independently selected so as to be the same or different at each occurrence and is selected from hydrogen, alkyl, alkenyl, aryl, alkanoyl, alkylthioalkyl, alkylaryl, arylalkyl, amino, epoxy, silane, siloxane, amidosulfonate, alcohol, benzyl, carboxylate, ether, ether carboxylate, amidosulfonate, ether sulfonate, and urethane.

22. (Currently Amended) The method of Claim 20, further comprising adding a material selected from a catalyst, a co-dispersing agent, a co-acid or mixtures thereof.

23. (Original) The method of Claim 20 and 22, wherein at least one pyrrole monomer is added using a controlled rate of addition to a reaction mixture.

24. (Original) The method of Claim 20 and 22, wherein the monomer is added to the reaction mixture separately and simultaneously with the controlled rate of addition of an oxidizing agent.

25. (Currently Amended) The method of claim 22, wherein co-dispersing agent is added in the reaction mixture or preferably at the end of polymerization.

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26. (Currently Amended) The method according to claim 25, wherein the dispersing agent is, but not limited to, selected from the group consisting of methanol, n-propanol, iso-propanol, and butanol, and the like.

27. (Original) The method of claim 20 and 22, wherein the aqueous dispersion of polypyrrole and colloid-forming polymeric acid is contacted with at least one ion exchange resin.

28. (Original) The method of claim 20 and 22, wherein the aqueous dispersion of polypyrrole and colloid-forming polymeric acid is contacted with at least one cation exchange resin and one anion exchange resin.

29. (Canceled)

30. (Currently Amended) The method of claim 28 ~~and 29~~, wherein the aqueous dispersion of polypyrrole and colloid-forming polymeric acid is further treated with an aqueous basic solution.

31. (Currently Amended) The method of claims 20 or 30, further comprising adding at least one selected from a conductive polymer, metal particles, graphite fibers, graphite particles, carbon nanotubes, carbon nanoparticles, metal nanowires, organic conductive inks, organic conductive pastes, inorganic conductive inks, inorganic conductive pastes, charge transport materials, semiconductive inorganic oxide nanoparticles, insulating inorganic oxide nano-particles, piezoelectric oxide nano-particles, piezoelectric polymers, pyroelectric oxide nano-particles, pyroelectric polymers, ferroelectric oxide nano-particles, ferroelectric polymers, dispersing agents, crosslinking agents and combinations thereof.

32. (New) The method of claim 20, wherein the colloid-forming polymeric acid is a fluorinated polymeric acid.

33. (New) The method of claim 32, wherein the fluorinated colloid-forming polymeric acid is a sulfonic polymeric acid.